

CHAPTER III

METHOD AND PROCEDURES

Research design

The purpose of this study is to develop BN degree education quality indicator in Indonesia by identifying and elaborating each element and sub-element of BN education system. In order to achieve this purpose, the EDFR technique (Poolpatarachawin, 2004) was implemented. Beside that researcher also will examine the applicability of the quality indicators have been developed in B N education in Indonesia. In order to achieve this purpose, a field study toward 4 (four) BN education in Indonesia was also conducted. In this chapter both method will be presented start with the EDFR and than followed by elaborating the Field Study.

The EDFR

In this subchapter , all aspect related to the EDFR will be presented includes the participants, instruments, data collecting process and the data analysis

PARTICIPANT

As a future research the participant should be the expert in area to be studied, since it is believed that expert should be able to forecast the future more accurately and more reliable than the layman. The expert was a person of importance behind the scene and also very knowledgeable about quality of BN education including administrator or a leader related to nursing education.

In order to identify the appropriate participant or expert for this study the following inclusion criteria were identified:

1. Experience working in area of or related to Nursing Education
2. Have any experience in the development of nursing education in Indonesia
3. Interested and agreed to participate in this study

Based on the inclusive criteria, expert as participant of this study was selected by purposive sampling technique combine with snow ball technique. At the beginning, researcher identify 4 senior nurses, who have very much experiences in Nursing education and took part in many nursing development in Indonesia. Snowball technique was implemented by asking each participant opinion and recommendation whom she know to be appropriate participant for this study and at the same time posses the criteria. Each of the them has recommended 2-3 person to be participant of this study which come up with the total of additional 9 (nine) participant. From this nine participant another snowball technique was also again implemented, every participant identify 1-2 person and able to identify and recommended another 12 participant. From this processes 25 expert was identified but only 19 was willing to participate. In the second round another 2 (two) participant was also not able to continue, therefore in the second round this study only able to recruit 17 participant. In the third round, another 2 participant was also unable took part in this study and until the last (third) round of EDFR this study was able to invite 16 nurse expert as participant.

These situation should be accepted since this is a common situation whenever we invite important person to be participant in any study, since they have many other important aspect in their daily business.

Researcher start with the personal preliminary contact with the identified expert, explaining the aims, usefulness of the study, procedure and time spent for each EDFR step. Following that contact formal invitation letter elaborating each step of EDFR was sent to the expert, explaining each step of the EDFR and invite them to participate in approximately three round Delphi study.

Referring to several consideration, the expert of this study was identified as those person who are the leader in BN education such as the dean of BN education , head of school of nursing, the director of nursing in the Ministry of Health and Director of nursing in the hospital, member of academic senate and the representative of the nursing association as shown in the following table:

Table 1 List of participant

NO	TYPE OF EXPERT	TOTAL
1	Director of Nursing MOH	1
2	Director of Nursing Hospital	3
3	Dean Faculty of Nursing	2
4	Head of school of nursing (BN level)	3
5	Member of University Senate	2
6	Member of Faculty of Nursing Senate	3
7	Secretary general of Nursing Association	1
8	Head of education division Nursing Ass.	1
TOTAL		16

INSTRUMENT

The instrument of this study consists of interview guide, a recorder, note, questionnaire, and also researcher as instrument. The interview guide was about element of BN education system and elaboration of each element or sub element, which be considered by participant as quality indicator of BN education.

2 (two) questionnaire was constructed for EDFR especially for the second and third round. The first questionnaire was a rating scale questionnaire, consist of predetermine BS Nursing quality indicator as perceived by participant in the in depth interview (first round of EDFR). Information as the result of the first round was analyzed, synthesized and redefine by researcher to become a list of questionnaire item. It was listed and group it according to the element and sub element of BN education identified in the study framework . For the information which has the same meaning be collaborated and re-constructed by trying to retain the original meaning as much as possible. Word which was clear be leaved as stated otherwise the researcher did the alteration in order to improve the clarity and also try to avoid ambiguous words such as better, worse, and decrease. This process able to list 125 item/statement as pre determine BN Quality indicator. Linguistic expert was consulted to maintain the original mining of each statement as the participant opinion on the in depth interview.

The first questionnaire was meant to identify respondent opinion to each statement of quality indicator in term of the probability from least to greatest probability, and also to identify respondent opinion on scenario of each item that it might desirable or undesirable. See Appendix A.

The second questionnaire was also constructed based on the result of the second round EDFR. To develop this second questionnaire, researcher identify the median

score of each quality indicator statement and selected those which have high and the highest probability based on the criteria (probability score more than 3.5). In this second questionnaire only statement of quality indicator with high or highest probability was included and be constructed to become second questionnaire. At the back of each item/ statement was marked with position of median, interquartile range of group, and the percentage of group consideration on the scenario of each statement. This second questionnaire was again to identify the probability level perceive by the expert and their opinion on the scenario of each quality indicator. See appendix B

DATA COLLECTION

1. Conducting interview as the first round of EDFR

In the interview researcher start by asking participant opinion toward the important sub element to be considered in the BN education, related to input, process, output and outcome element of BN education system. In order to trigger more participant opinion, most of the time researcher used probing question, such as: “What about the other factors such as?” (By referring to the element which already being identified in framework).

To maintain internal content validity, while interviewing, information from participant was summarized to her again every time the interview able to finished one topic before continue to the other. In this step since many aspect to be discussed and due to detail of discussion, most participant was not able to finished the discussion on the first meeting, therefore for most of them researcher should made another appointment and conduct second and even third visit to continue the interview. This step started 8 March 2006 and finished on 3 June 2006.

2. The second round EDFR.

In this second round of EDFR, researcher used the first instrument to identify the probability and the scenario of each quality indicators. The questionnaire was sent to the previous participant of the first round of EDFR together with the covering letter.

After all response gathered then probability level and the trend of each indicator was analyzed. The level of probability identified by the median score and the congruency among the expert was identified from the interquartil range (IQR). Trend of each quality indicator identified by the percentage of desirable or undesirable scenario of that statement selected by the expert.

3. Third round EDFR

The same expert was asked to participate again to become respondent on this third round EDFR by sending them a request letter. Based on their agreement to participate, the instrument (Appendix B) was sent to each respondent.

4. The last step was to analyze the response, identified the median and the IQR score of each quality indicator. Researcher use median score to identify the probability level and IQR to identify congruency among the expert. Result of this last step of EDFR was a list of quality Indicators of BN education which have high consensus or congruence among the expert. This list of quality indicator was used to construct observation instrument for the field study, as presented in Appendix C.

DATA ANALYSIS

Data collected using the first and second questionnaire was analyzed as follows:

1. Each probability statement was analyzed based on median score on the following criteria:

- a. Median 4.50 or over means greatest probability
- b. Median between 3.50 to 4.49 means great probability
- c. Median between 2.50 to 3.49 means intermediate probability
- d. Median between 1.50 to 2.49 means less probability
- e. Median between 1.00 to 1.49 means least probability

2. The desirable or undesirable scenario of each statement was determined by 75 % of respondent favorable response to that particular statement. If the response was either desirable or undesirable scenario of each statement, it meant that pertinent statement tends to that direction

3. The consensus of the respondent opinion in each statement is considered on the basis of interquartile range (IQR). Any statement having the IQR equal or less than 1.5 means that respondent group think congruently to that statement.

FIELD STUDY

In order to answer the second research question: Will the quality indicators applicable in BS Nursing education in Indonesia? Researcher conduct direct observation in 4 (four) BN education to identify any evidence related to each quality indicator, in the following steps:

1. Construct an observation Instrument

Instrument was constructed using the list of quality indicator which have high consensus among the expert as result of the 3rd round EDFR. This instrument was meant for identifying the applicability of each quality indicator by observing the occurrence or any evidence related to each quality indicator in BN education. Therefore it was a check list with two option which is Yes (meant there was evidence or occurrence) and No (meant there was not any evidence or occurrence). Researcher used this instrument to conduct the observation on 4 (four) BN education selected as field study. See Appendix C

2. Selection the site of field study

Quality of an institution could be identified from their level of the accreditation status whether A (excellent), B (good) or C (pass).There was an assumption that in a good or excellent quality institution should also implement all the quality indicator of BN. Based on that assumption, researcher purposely select BN education being consider as a good institution based on their accreditation status. From 17 accredited BN institution in Indonesia right now, only 5 of them have B score in their accreditation and 4 (four) of them was selected as the site of this field study.

3. Identify the applicability.

Researcher conducts the direct observation in 4 (four) BN institutions and identify any evidence related to each quality indicator listed in the observation instrument. Researcher consider as applicable if there is evidence or occurrence of each item during the observation, and be consider not applicable if researcher could not find any evident related to pertinent statement. In order to identify the evidence researcher observed, study related document or discussed with any person related to

each quality indicator such as teacher, student, administrative staff, laboratory assistance etc.

4. Data analysis

Researcher set criteria for considering the applicability of each quality indicator of BN education with the following criteria :

- 4.1 Highly applicable, if appear in 4 BN education
- 4.2 Most applicable, if appear in 3 BN education
- 4.3 Less applicable, if appear in 2 BN education
- 4.4 Not applicable, if appear in 1 or not any BN education

In conclusion the quality indicator be considered applicable if at least it appear in 3 BN education

STATISTIC FORMULA IN DATA ANALYSIS

1. To identify median

$$\text{Median} = L_o + h \left[\frac{\{ (N/2) - f_c \}}{f_w} \right]$$

L_o = lower theoretical limit of the interval in which the median lies

h = height of the interval

N = total number of respondent

f_c = cumulative frequency up to the interval containing the median

f_w = frequency within the interval containing the median

2. To identify interquartile range (IQR)

$$\text{IQR} = \text{Q3} - \text{Q1}$$

Q1 = first quartile, the 25th percentile of data

Q3 = third quartile, the 75th percentile of data

$$\text{Q1} = \text{Lo} + i (N/4 - \text{fc}) / \text{fw}$$

$$\text{Q3} = \text{Lo} + i (3/4 N - \text{fc}) / \text{fw}$$

Lo = lower theoretical limit of the interval in which the median (Qi) lies

h = height of the interval

N = total number of respondent

fc = cumulative frequency up to the interval containing the median (Qi)

fw = frequency within the interval containing the median (Qi)